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10/035,535	10/26/2001	Heather D. Boek	SP01-253	4706

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EXAMINER

HOFFMANN, JOHN M

ART UNIT PAPER NUMBER

1731

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/035,535

Applicant(s)

BOEK ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what is meant by the term "compound". Claim 8 indicates that Cl<sub>2</sub> is a compound, but chlorine gas is not a compound. Applicant is using a new definition for "compound" but it is unclear what that definition is. Using "gas" instead of "compound" is one way to overcome the rejection.

Claim 15 and others indicate that the glass has a material such as aluminum in it. It doesn't seem likely that there is such a metal in the preform. Pieces of metal would tend to reflect the light. Also it is questionable as to whether fluorine (a gas) is considered to be a "material".

Claim 16 compares the matching of two layers with that of an inner layer. Whereas two layers may match, a single layer cannot match nothing - it has to match with something else. Alternatively, if the inner layer much match with itself, it has to be a perfect match - and thus no other match can be better - nothing is better than that which is perfect.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-9, and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishikawa 6116055.

See figure 1, Col.1, lines 54-65 and col. 2, lines 41-47. It is noted that atmospheric pressure (i.e. 101.3 kPa) is greater than 99 kPa. 99 kPa is “about” 101.3 kPa.

Claim 2: See col. 5, lines 35-40.

Claims 4-5: Figure 3 shows a partial pressure of about 25%. This corresponds to roughly a mole percentage of 25%.

Claims 6-7: referring to col. 3, lines 52-57 - there is a change in index of 0.108%. Col. 1, lines 15-18 discloses that 0.11% change corresponds to a chlorine content of 1%. One could infer that Ishikawa's glass corresponds to a chlorine content of 0.98%. It is deemed that 0.9% is “about 1%”. Since 0.98 is greater than 0.9, then 0.98 is greater than “about 1%”.

Claim 8 is clearly met.

Claim 9: see col . 6, line38.

Claim 15 as best understood is met (see col. 5, line 61)

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Claims 16-18: From claim 18 it is clear that Applicant intends fluorine to be a "material". It is clear that the silica material and the fluorine materials have different viscosities. Fluorine is a gas at the claimed temperature and thus would have a viscosity very near to zero - as compared to the silica material. As indicated on page 1 of the specification, chlorine reduced the viscosity of glass. Therefore, one would reasonably expect that the Ishikawa's chlorine would reduce the viscosity of the glass, and not substantially change the viscosity of fluorine - and thus it improves the matching.

Claims 32-35 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kyoto 5145507.

See figure 3 and the text which describes it. The particular gases and pressures are method of use limitations and do not substantially impart any structural limitations of the apparatus.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 10-14 and 19-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa 6116055.

Ishikawa discloses the invention, except for the sequential dehydration then doping. Ishikawa does them simultaneously. Such would have been an obvious modification because selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results. In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946).

Claims 10-14 are directed towards process parameters that Burhans discloses are result effective variables. It would have been obvious routine experimentation to determine the optimal temperature, pressure and time period for the process - depending upon the desired end product desired.

Claims 19-31 are met for the reasons given above: the claims have the same limitations addressed above.

Claims 11-12 and 10 and 19-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa as applied to claim 1 above, and further in view of Kingery's "Introduction to Ceramics, pages 219-226.

Kingery is directed to Fick's laws of diffusion. One of ordinary skill in art is familiar with such laws. It is easy to see from the equations (for example equation 6.21) that the higher the concentration of solute (chlorine in the present invention and in Ishikawa) the more of the solute diffuses into the body. And from routine application of the Ideal gas law, one knows that the higher the pressure of the gas, the higher the

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concentration of the solute. It would have been obvious to use a high a pressure as reasonably possible, so as to maximize the amount of chlorine in the preform.

Alternatively, this second reference is used to further demonstrate that pressure is a result effective variable.

Claim 10: from equation 6.11 of Kingery, it is clear that diffusion depends on the temperature. It would have been obvious to come as close to the 1300 C upper limit that Ishikawa teaches without going over, because the higher the temperature the quicker the reaction.

Claims 19-31 are met for the reasons given above: the claims have the same limitations addressed above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is 703-308-0469. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 703-308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7115 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

John Hoffmann  
Primary Examiner  
Art Unit 1731

